

ABSTRACT OF THE DISCLOSURE

The following plasma processing apparatus can suppress the production of contaminants from the plasma processing chamber of the apparatus and an article in the plasma processing chamber which are allowed to act as ground electrodes: a plasma processing apparatus in which a workpiece is processed by creating a plasma in the processing chamber, and one or more surfaces made of a grounded metal electric conductor which come into contact with the plasma in the plasma processing chamber are coated with a plasma-resistant polymeric material having a relationship between relative dielectric constant $k\epsilon$ and thickness t (μm) of $t/k\epsilon < 300$, or a protecting layer formed of a plasma-resistant and water-absorbing resin material is adhered and fixed to the outer surface of an article in the processing chamber by its swelling and then shrinkage.